

**WasteCap of Massachusetts Site Visit Report:
Massachusetts Department of Youth Services
425 Harvard Street, Dorchester**

Developed by WasteCap of Massachusetts
for the Massachusetts Department of Youth Services

Site Visit Conducted on May 29, 2003

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INTRODUCTION AND BACKGROUND

WasteCap of Massachusetts contracted with the State Sustainability Program at the Massachusetts Executive Office of Environmental Affairs and the Department of Environmental Protection to perform a site visit for the following facility:

Massachusetts Department of Youth Services
425 Harvard Street
Dorchester, MA 02124

Contact:
Ray Serena, Maintenance Forman

Site visit date:
May 29, 2003

The purpose of the site visit was to review of Youth Services' (DYS) current waste management practices at the Dorchester facility, and identify specific ways to reduce waste, improve environmental performance, and cut costs.

Facility Information

There are three buildings in the DYS complex housing 185 residents and close to 40 staff. In addition, there are 40-50 office workers, as well as kitchen staff and others. Security is an issue in this facility.

General Benefits of Recycling

Recycling turns materials that would otherwise become waste into valuable resources and generates a host of environmental, financial, and social benefits. Major benefits include:

- **Cost Savings**
 - Recycling saves money by diverting materials from the trash, thereby reducing trash collection and disposal fees.
 - The price per ton to divert recyclables like paper, cardboard, organics, and scrap metal is usually less than it is for conventional trash disposal in landfills or incinerators.
- **Comply with Regulations and Executive Orders**

There are a number of regulations and an executive order relating to waste management procedures that state agencies should be in compliance with.

 - **Waste Bans -**

"Waste bans" are restrictions on the disposal and transfer for disposal of certain hazardous and recyclable items at solid waste facilities in Massachusetts. Banned materials include paper; cardboard; glass, metal, and plastic containers; leaves and yard waste; batteries; white goods (appliances); whole tires; and cathode ray tubes. For more information visit <http://www.state.ma.us/dep/recycle/files/wstban01.doc>
 - **Massachusetts Universal Waste Rule -**

Universal wastes are specific hazardous wastes such as batteries, mercury containing products like thermostats and fluorescent lamps, and other materials that are commonly generated by households, businesses, and industries that are subject to streamlined environmental regulations. Universal wastes must be stored in a separate area marked as a Universal Waste accumulation area. Containers of universal wastes or individual universal waste items must be labeled as

Universal Waste, with the name of the waste, *e.g.*, Universal Wastes - Thermostats. Additional handling requirements depend on the type of waste. Disposal of universal wastes as solid waste is prohibited. Generators also are prohibited from accumulating universal wastes for longer than one year, unless the generator can prove that the activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment or disposal by a licensed vendor. For more information visit <http://www.state.ma.us/dep/recycle/files/univrule.doc>

- State Sustainability Executive Order No.438 -
Executive Order 438, issued in July of 2002, calls on all state agencies to establish sustainability goals, initiate long-term sustainability planning, and implement sustainable practices at state facilities. The Order established a State Sustainability Program, staffed at the Executive Office of Environmental Affairs, which assists agencies in meeting the goals of the Order, including agency plans, environmental initiatives, and tracking and reporting.


With regard to solid waste, the Order calls on agencies to meet the 70% waste reduction goal established by the EOEA/DEP Beyond 2000 Solid Waste Master Plan by 2010. Implementing the recommendations in this report will help the DYS Dorchester facility move toward meeting the requirements of Executive Order No. 438.

- **Improve the Environment**

Recycling benefits the environment in a number of ways:

- Conserving Natural Resources -
By substituting scrap materials for the use of trees, metal ores, and other virgin materials, recycling reduces the need to expand forestry and mining operations.
- Saving Energy -
Because recycled materials have already been processed once, it takes less energy to process new products with recycled material than virgin materials.
- Reducing Green House Emissions -
Much of the energy used in industrial processes and in transportation of materials involves burning fossil fuels like gasoline, diesel, and coal, which are sources of greenhouse gas emissions. By saving energy, recycling also reduces the amount of greenhouse gasses being generated by these processes.

Using recycled vs. virgin materials to make new products saves a tremendous amount of energy and dramatically reduces harmful emissions. The following chart illustrates the benefits of using recycled vs. virgin pulp for paper alone:

	60% energy savings (Center for Ecological Technology)	95% less air pollution; each ton saves 60 lbs. of air pollution (Center for Ecological Technology)	Recycling of each ton of paper saves 17 trees and 7000 gallons of water (EPA)
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- **Sustain Local Industries and Jobs**

Many of the recyclable materials generated in Massachusetts are processed to some degree in the state, and some are manufactured into new products here as well, creating jobs and economic benefits. According to a

study co-sponsored by the Chelsea Center for Recycling and Economic Development, the economic activity generated by the recycling and reuse industry in Massachusetts is significant. Highlights include:

- 1,437 recycling and reuse establishments.
- 19,445 employed in recycling and re-use industries.
- \$557 million in annual payroll.
- \$3.58 billion in annual revenues.

Current Program Overview

DYS currently does not recycle anything; all waste is disposed. Solid waste removal service is provided by Waste Management. Three 10-yard top loaders are used to collect the garbage, although Waste Management has only been charging DYS for two containers because the third was supposed to be used for cardboard recycling. DYS, however, reports that this container has not been used for cardboard recycling for about 5 years and has been using it instead for garbage. An additional 30 yard container is rented as needed to haul bulky material, such as old furniture and equipment. The following chart provides an overview of the existing DYS waste disposal contracts for the Dorchester facility:

Contract	Payment Structure	Annual Contract Cost	Qty Managed	Cost per Ton
Trash	In front of cafeteria (1): \$1195 monthly charge (10-yd container, 3xs/week)	\$14,340	*	
	In back of facility: \$110 monthly charge (10-yd container, once/week)	\$1,320	*	
	In front of cafeteria (2): No charge (10-yd container, 3 xs/wk)	\$0	*	
	Total	\$15,660		
	Totals	\$15,660		

* Flat fee charged; emptied by front load trash truck; not weighed.

Summary of Major Recommendations Based on our research and site visit findings, the following is a list of major opportunities to increase waste diversion and save money on waste disposal at the Dorchester facility:

Short term-

- Establish a mixed office paper recycling program.
- Establish a cardboard recycling program.
- Establish a bottle and can recycling program
- Establish a universal waste (fluorescent bulbs, computer monitors, etc.) recycling program
- Establish a comprehensive public education program.
- Monitor dumpster levels to reduce hauling fees.

Long term-

- Institute a scrap metal recycling program
- Establish a food waste diversion program

These recommendations are explained in detail on the following pages.



ESTABLISH A MIXED OFFICE PAPER RECYCLING PROGRAM

Current Paper Recycling Program:

Currently DYS does not recycle any of its office paper. On the site visit, one office worker reported that 90% of her waste is paper. There are 40-50 office workers.

Specific Recommendations:

WasteCap contacted Waste Management regarding their fees to pick up separated office paper from DYS. Please note that markets for recyclable materials can go up or down any time, and prices may change accordingly.

Container	Fee
6 yard dumpster	\$20/pick up
Toters (96 gallon)	\$20/pick up plus \$3/month rental per toter

Mixed office paper consists of copy paper, forms, colored paper, letterhead, newspaper, magazines, envelopes, catalogues, non-corrugated cardboard, etc. Although Waste Management's price seems reasonable to WasteCap, DYS may want to obtain price quotes from other vendors, and compare the cost of purchasing toters rather than renting them. Appendix 1 lists vendors on the State contract. Another option is to use the online Recycling Services Directory (RSD) (located on the Web at www.wastecap.org/wastecap/rsd2003/) to find a list of recycling vendors who service the Dorchester area. The RSD lists companies that accept, collect, or purchase materials for recycling and reuse from Massachusetts businesses. This free resource is compiled and produced by WasteCap of Massachusetts and funded by the Massachusetts Department of Environmental Protection (DEP).

The following are steps that WasteCap recommends for setting up a successful office paper recycling program.

- **Place desk-side recycling bins in each classroom and at each workstation**

Providing desk side recycling containers (usually 14 quart blue bins) within arm's reach of each workstation will dramatically improve paper recycling rates. These bins should also be placed in a visible and convenient location in each classroom. Desk side recycling bins are convenient – and convenience is the key to a successful recycling program. DYS students and employees would place their paper in these containers rather than garbage cans. The paper recycling containers are critical to the success of the program because approximately 80% of typical office waste is recyclable paper.

An educational recycling flyer should be included with each bin, and the flier placed on classroom message boards.

- **Place larger paper recycling bins at high generation areas**

Place 23 gallon Slim Jim containers with slotted tops manufactured by Rubbermaid (or equal) in areas such as the copy rooms, computer centers, and mailrooms where significant quantities of paper are generated. Recycling guidelines and trashcans should be placed in these areas to minimize contamination.

- **Collect recyclables from workstations on Tuesdays and Thursdays**

DYS custodial staff will be responsible for collecting office paper as well as trash. They do not need to increase their workforce to do this. Instead of collecting trash every day, it can instead be removed from offices three days a week, and recyclables collected twice a week. For example, use Monday,

Wednesday, and Friday as trash pickup days and Tuesdays and Thursdays for recyclables pickups. Trash in bathrooms and other public spaces can still be collected daily. Janitorial staff will collect paper from slim jims and desk-side containers using large (64-96 gallon) toters, large containers on wheels. These toters will then be stored in a secured area for collection by the recycling vendor.

- **Add additional recycling bins if needed**

Monitor how full the recycling containers are before each time they are emptied. A tracking sheet will help you gauge the amount of times the containers actually need to be emptied. You can work with your recycling vendor to have them supply more bins, or purchase your own bins.

Desk-side bins, toters, and slim jims are available through state contract. DYS' purchasing department should look at the bins available through this contract. Information about container vendors is available in Appendix 2. Information about "Slim Jim" containers is located in Appendix 3.

General Office Paper Recycling Tips:

- Office paper usually comprises greater than 80% of office trash, so make your recycling program as or more convenient than the trash collection program.
- Recycle as many types of office paper as possible - the market for mixed office paper is good and is expected to remain so into the foreseeable future. Work with your vendor to include colored and white paper, newspapers, magazines, junk mail, envelopes, and post-it notes in your program
- Establish a uniform color-coded container system so that people can recognize and differentiate trash containers from recycling containers.
- Provide color-coded, clearly labeled recycling containers (usually 14 quart blue bins), within arm's reach of every desk, workstation, classroom, and conference room.
- Post clear and concise recycling guidelines adjacent to all recycling containers and on your internal website; send emails to staff and clients periodically telling them of the successes as well as areas for improvement.
- Consider purchasing wheeled recycling carts (64 gallon carts work well) for bulk collection of recyclable paper rather than leasing them from vendors. The payback period is short and they are a good investment. Be sure to purchase containers that are compatible with your recycling vendor's equipment.
- Work closely with your recycling vendor regarding which materials are accepted and prohibited.
- Obtain service and price quotes from other vendors on an annual basis to ensure you are recycling as many materials as possible at the best rates available. However, do not switch vendors regularly based solely on price—service is equally important, as is developing a relationship with your vendor to make sure they stick with you when recycling market conditions are good and bad.
- Designate an internal recycling manager or managers. Include their name and contact information on all posters, recycling containers, and program information.
- Recycling office paper reduces your environmental liability because recyclable paper is prohibited from disposal in landfills and incinerators through the Massachusetts Waste Ban regulations (visit <http://www.state.ma.us/dep/recycle/files/wstban01.doc>)

Remember - recycling more paper enables you to avoid trash disposal costs and helps you save \$\$

ESTABLISH A CORRUGATED CARDBOARD RECYCLING PROGRAM

Current Cardboard Recycling Program:

Currently, DYS does not have a cardboard recycling program, although one 10-yard trash container is supposed to be dedicated to recyclable cardboard and cardboard has been recycled in the past. A large amount of cardboard was observed during the site visit as being disposed from the cafeteria. All cardboard is disposed of in trash dumpsters.

Specific Recommendations:

Corrugated cardboard is a different paper grade of paper from mixed office paper and must be collected and stored separately. Cardboard takes up a significant amount of volume in the trash, and is a key reason that trash dumpsters require more frequent hauls, resulting in increased trash disposal fees. Corrugated cardboard has well-established markets, and is easy to recycle. As such, corrugated cardboard is banned from Massachusetts landfills and incinerators. Any waste loads containing cardboard may be rejected by the disposal facility for failing to remove the banned material. See Appendix 4 for information on waste bans.

- **Request replacement of one 10-yard dumpster with a well-labeled, slotted one**
A major reason that the current cardboard dumpster is mistaken for a trash dumpster is because it is not well labeled. Request that Waste Management remove the current cardboard dumpster and replace it with one that is lockable, equipped with a slot about 5"x48", and is clearly labeled "cardboard recycling." Other cardboard recycling companies can also be contacted instead regarding containers and pricing. See Appendix 1 for the contact information of cardboard recycling vendors on the state recycling contract, or consult the WasteCap services directory for additional vendors (www.wastecap.org/wastecap/rsd2003/). . Regardless, the 10 yard dumpster that is currently used for garbage should be removed.
- **Request pick up on an on-call rather than scheduled basis**
Calling for a pick up when the bin is full rather than having the contractor come out on a regularly scheduled basis can reduce costs for the hauler and improve revenue for DYS.
- **Train staff to flatten cardboard and place it in the recycling bin**
Flattening cardboard will be extra work for the staff, but it will save money by reducing trash disposal costs and bringing in income from the sale of the cardboard. Cardboard must be kept free from food and other contaminants.

WasteCap obtained the following quote for cardboard pick up from one contractor, Save that Stuff:

Container	Fee
10 yard dumpster with slot	\$20-25/pick up

Note that market prices, and hence the fee charged, for recyclable materials may change.

General Cardboard Recycling Tips:

- Recycle cardboard whenever possible - recycling costs less than throwing it away, and cardboard takes up a significant amount of space in your trash dumpster.
- Insist that your vendor clearly labels your dumpsters “Recycled Cardboard Only.”
- To minimize the number of pickups or hauls required, maximize the size of the cardboard dumpster used and encourage staff to flatten cardboard.
- Explore the possibility of changing your contract from an automatic pickup contract (e.g. 2 times/week) to an “on-call” contract where your staff calls for a pickup or haul only when the cardboard recycling container is full.
- Recycling cardboard reduces your environmental liability because cardboard is prohibited from disposal in landfills and incinerators through the Massachusetts Waste Ban regulations (visit <http://www.state.ma.us/dep/recycle/files/wstban01.doc>).
- If you are using a dumpster, insist that your vendor provides one that is lockable and is equipped with a slot. These features will ensure the cardboard is flattened and contamination is kept to a minimum
- Obtain service and price quotes from other vendors on an annual basis to ensure you are recycling as many materials as possible at the best rates available. However, do not switch vendors regularly based solely on price—service is equally important, as is developing a relationship with your vendor to make sure they stick with you when recycling market conditions are good and bad.

Remember - Recycling cardboard enables you to avoid trash disposal costs and helps you save \$\$.

ESTABLISH A BOTTLE AND CAN RECYCLING PROGRAM

Current Bottle and Can Recycling Program:

DYS currently does not have a bottle or can recycling program. A large amount of #10 cans from the cafeteria were observed in the trash during the site visit. Large amounts of plastic and glass beverage containers were also observed. These containers are readily recyclable and are taking up space in the garbage, thus unnecessarily costing DYS money to dispose.

Specific Recommendations:

- **Place recycling bins in high generation areas**
Place Slim-Jim containers (or equal, see Appendix 2) with lids containing restrictive round holes to collect bottles and cans. These bins should be placed in the cafeteria, in residence halls, and in the kitchen. Bins should be clearly marked as to what is allowable and what is not.
- **Have custodial staff consolidate bottles and cans into one area**

As with paper, the custodial staff should collect the bottles and cans on a regular basis and consolidate them into large totes and place them in a secure area for collection. As an incentive to recycle, containers with a redemption value can be taken out and redeemed by the custodial staff or by DYS and the money used for office needs, a party, or rewards for participation.



- **Shop around for a bottle and can recycler**
Waste Management does not collect bottles and cans. The state has a number of recycling service providers on contract (see Appendix 1) and these vendors should be contacted regarding price and service.
- **Make sure all containers and surrounding areas are well marked**
Make sure the containers have clear labels as to what is acceptable and what is not. Place signs where beverages are purchased or distributed that remind people to recycle the containers and tell them where to do it.
- **Train kitchen staff**
Train kitchen staff to recycle #10 tin cans rather than dispose of them. Follow recycling vendor's instructions as to cleaning cans.

General Bottle and Can Recycling Tips:

- Consider purchasing wheeled recycling carts (96 gallon carts work well) for bulk collection of recyclable bottles and cans rather than leasing them from vendors. The payback period is short and they are a good investment. Be sure to purchase containers that are compatible with your recycling vendor's equipment.
- Search for a vendor that recycles co-mingled (mixed) plastic, glass, tin, and aluminum containers. This method is far easier than recycling the various materials separately.
- Work closely with your recycling vendor to determine which materials are accepted and prohibited and to design the best collection system.
- Obtain service and price quotes from other state contract vendors on an annual basis to ensure you are recycling as many materials as possible at the best rates available.
- Post clear and concise recycling guidelines adjacent to all recycling containers and on your company's website.
- Designate a recycling manager or managers and include their name(s) and contact information on all posters, recycling containers, and program information.
- Establish a uniform color-coded container system so that people can recognize and differentiate trash containers from recycling containers.

Remember - recycling bottles and cans enables you to avoid trash disposal costs and helps you save \$\$.

ESTABLISH A UNIVERSAL WASTE RECYCLING PROGRAM

Current Universal Waste Recycling Program:

DYS currently stores but does not recycle any of its universal wastes, such as fluorescent bulbs and cathode ray tubes.

Specific Recommendations:

- **Find a universal waste recycling vendor**

Find a reputable, licensed recycling service to collect both CRT's and fluorescent bulbs.

Use the online Recycling Services Directory located on the Web at www.wastecap.org/wastecap/rsd2003/ to find a list of CRT and Fluorescent bulb recycling vendors who service your area.

General Universal Waste Recycling Tips:

- Universal waste must be stored in a separate area marked as a universal waste accumulation area
- Containers of universal wastes or individual universal waste items must be labeled as Universal Waste, with the name of the waste
- Fluorescent bulbs must be properly recycled by law in order to avoid fines
- CRTs, or cathode ray tubes, contain lead and must be properly recycled. CRTs are the main components in a television and computer monitor's display unit. CRT's should be handled carefully so as not to break them and create opportunities for lead exposure.
- For more information on Massachusetts' Universal Waste Rule (310 CMR 30.1000), go to <http://www.state.ma.us/dep/recycle/files/univrule.doc>

ESTABLISH A SCRAP METAL RECYCLING PROGRAM

Current Scrap Metal Program:

DYS does not currently recycle scrap metal. All scrap metal is disposed of in waste dumpsters which are rented as needed. Markets for scrap metal are well established and there is no reason to dispose of metal.

Specific Recommendations:

- **Consider this a long-term goal**
Because scrap metal does not make up a significant portion of the DYS' waste stream, this recommendation should be used in long-term planning. WasteCap recommends focusing on improving and implementing paper and cardboard recycling procedures first.
- **Obtain quotes for recycling**
Contact recycling vendors on the state recycling contract (see Appendix 1) and ask them for quotes on providing a ten cubic yard dumpster for mixed scrap metal. Call them on an as needed basis as services are required.

ESTABLISH A FOOD WASTE RECYCLING PROGRAM

Current Food Waste Recycling Program

Currently DYS disposes of its food waste with its garbage. Organics recycling is a viable method of reducing waste disposal costs. Food waste that is unsuitable for reuse can be composted and returned to the earth as a soil amendment.

Specific Recommendations

- **Consider this a long-term goal**
This recommendation should be used in long-term planning. WasteCap recommends focusing on improving and implementing paper and cardboard recycling procedures first.
- **Contact food recycling/compost vendors**
Once the short-term recycling recommendations are implemented, WasteCap has the name of vendors who will collect food waste for composting. These vendors can also assist with program design, container placement, and education. Alternatively, composting may be done on site given appropriate space and attention. Worm bins, where food is fed to worms in a large bin, are an option for recycling and can provide educational opportunities for residents.
- **Set up food recovery containers in the kitchen and cafeteria**
Set up containers in food preparation areas and train workers how to use them and store food waste for recycling. Set up containers in the cafeteria for people to discard of uneaten food.
- **Consider purchasing biodegradable utensils and plates**
Replace any disposable utensils and plates with biodegradable alternatives, such as paper plates. There is at least one company that manufactures biodegradable knives, spoons and forks which can be composted.

General food recycling tips:

- Keep food scraps covered and away from areas that animals, such as skunks and raccoons, can get into them
- Keep meat and cheese out of food recycling bins unless instructed otherwise by compost company
- Cover food waste daily to keep bugs away; sawdust can also help with this
- Make sure only those types of food and organics specified by your collector are included
- Educate users of food waste recycling program as to dos and don'ts.
- Place signs in and around collection areas that specifies allowable materials.

ESTABLISH A COMPREHENSIVE RECYCLING EDUCATION PROGRAM

Educating the users of a program is critical in ensuring any recycling program's success. If this aspect of the program is not implemented, the recycling program will not reach its full potential, and vendors may reject materials due to contamination, thus creating extra costs and reducing participant's interest in the program. The best way to ensure a successful program is to educate the staff and residents by explaining what is recyclable, where it can be recycled, why it is important to recycle, and who can answer questions about the recycling program.

Signage

Occupants must see clear, visible signs promoting the recycling program. Signs should be placed in high visibility areas such as bulletin boards, on or near recycling bins, near copy machines, in cafeterias (tri-fold table tents work well), and on the web (see the "Website" section below for details).

List what can be recycled and where it can be placed. Be sure to leave contact information for participants to ask questions or to report a problem. Information explaining your recycling program should also be included as part of the orientation for new employees.

To avoid contamination make sure all recycling bins and dumpsters are properly labeled.

Recycling Coordinators (Green Team)

Establish a network of volunteer recycling coordinators from each department or building, including program residents. These networks have been proven to increase recycle rates and reduce costs. Many organizations have found that employees, as well as other program users, provide creative ideas to improve waste-handling practices. Management can make them feel comfortable and encourage them to come forward with ideas through the use of these networks.

By creating a network of coordinators you will develop a sense of program "ownership". These people will become your liaisons for distributing educational materials, and assist in the enforcement of their recycling programs.

Include representatives from the custodial work force in the network - you will find that many custodial staff take pride in the recycling efforts. They are also the people that deal with the program first-hand and probably know its strengths and weaknesses better than anyone.

Meet with the coordinators two to four times a year to discuss your recycling program. Use these meetings to share ideas to improve, expand, and sustain the program. Provide food at the meetings! It really helps increase attendance and participation.

Website

If DYS has an intranet, create a section on there that outlines the recycling program. This can also be place on the regular web-site where others can see it. This section should contain guidelines and statistics that inform your staff and visitors about materials that can be recycled, where they should be placed, updates, statistics, and who to contact if they have questions about your recycling program.

By establishing a recycling section on your website, you will be providing an updateable resource for staff to print out anytime. The Web is also a great way to show visitors and the local community that your company is doing its part to improve the environment.

The address of your Website recycling section should be included on all recycling program educational materials.

Kick-off Memo

A letter signed by upper management and sent to company staff highlighting the benefits of the recycling program is an excellent way to jumpstart and enhance your program.

Reinforcement and Follow-up

It is important to reinforce the new recycling culture in your company. Keep residents and employees informed of recycling efforts by highlighting participation rates, quantities of recycled material collected, revenue earned, disposal cost savings, and any problems encountered and/or solved in company memos or newsletters. Continuously seek suggestions for improving your program from your staff. Use any program revenue to reinforce the program, through awards, rewards or other incentives.

Join the Race to Recycle

Participate in the Race-to-Recycle program. The race-to-Recycle is an annual competition open to all businesses and institutions in Massachusetts. The contest evaluates and awards participants based on their recycling and waste reduction efforts, placing an emphasis on recycling percentages.

The race also offers networking and educational programs throughout the year. Quarterly workshops for race participants will bring them together with speakers and WasteCap staff to share ideas, gain insight, and increase recycling percentages. The Race could be a tremendous opportunity to help boost the recycling program. For information about the race and to sign up, visit www.racetorecycle.org.

Join the US EPA WasteWise Program

WasteWise is a free, voluntary, US Environmental Protection Agency (EPA) program through which organizations eliminate costly solid waste, benefiting their bottom line and the environment. Members set feasible and cost-effective waste management goals for their organization.

WasteWise provides free technical assistance to help your company develop, implement, and measure waste reduction activities. WasteWise offers publicity for organizations that are successful in reducing waste through EPA publications, case studies, and national and regional events. These events also provide networking opportunities for organizations to share waste reduction ideas and success stories.

(See Appendix 5 for more information.)

MONITOR DUMPSTER LEVELS TO REDUCE DISPOSAL COSTS

DYS currently has its waste picked up on a regular basis (three times a week for two containers, and once a week for the other), regardless of how full the containers are. This may be creating unnecessary costs if the dumpsters are picked up when they are not full.

By monitoring the amount of daily waste placed in the containers, DYS can determine the amount of hauls actually needed. It is quite possible that the current number of hauls per week is in excess of what is actually needed. As recycling is implemented, this will also reduce the frequency of trash pick up needed. Dumpster monitoring should be ongoing through recycling program implementation, and then done periodically throughout the year.

TRACKING RECYCLING STATISTICS

It is important to track your recycling and trash statistics on a regular basis. Maintaining accurate and consistent records including the types and quantities of materials recycled and disposed of in your program provides the basis for making informed decisions about future program modifications and enhancements.

- **Gauge Program Progress**
Tracking your waste reduction efforts will provide a consistent means to accurately measure and track the program progress over time and most importantly, it will help determine if your program is cost effective.
- **Address Waste Reduction Goals**
Accurately tracking your waste and recycling percentages will give DYS the knowledge needed to set firm waste reduction goals.
- **Educate the Staff**
Information gathered from measuring and tracking recyclables and trash quantities is very valuable in educating your staff about the positive impacts of your program and sustaining the program.

Tracking Methods

The best way to track your recycling program's progress is to develop an electronic spreadsheet based on a monthly timeline which compares this year's recycling and trash totals to the previous year's totals. You can obtain this data from your trash and recycling service providers, and the information you need is often provided on monthly vendor invoices. Sample spreadsheet formats are provided on the following page.

Z Corp Recycling Statistics

Commodity	Tons Generated									
	January		February		March		...	Year to Date Totals		
	FY03	FY04	FY03	FY04	FY03	FY04		FY03	FY04	% Change
Mixed paper										
Cardboard										
Bottles and Cans										
Scrap metal										
Total recyclables										
Trash										
Total recyclables and trash										

Commodity	Cost/Revenue									
	January		February		March		...	Year to Date Totals		
	FY03	FY04	FY03	FY04	FY03	FY04		FY03	FY04	% Change
Mixed paper										
Cardboard										
Bottles and Cans										
Scrap metal										
Total recyclables										
Trash										
Total recyclables and trash										

RESTRUCTURING EXISTING CONTRACTS

There are many ways to restructure your existing contract and reduce your waste disposal costs. Two methods are reviewed in this section.

Analyzing the number of Pulls or Dumps Required

Currently, DYS pays \$1195/month for emptying, or 'pulling' of one dumpster three times/week. Waste Management reported to WasteCap the following rates for less frequent servicing:

Collections/Week	Monthly Fee	Annual Saving
Three	\$1195	\$0
Two	\$650	\$6,540
Once	\$325	\$10,440

There can be significant savings by reducing the amount of dumpster pulls per week.

Many times dumpsters or roll off containers are emptied too frequently, resulting high trash disposal and recycling costs. You should monitor the how full the recycling and trash containers are immediately before each time they are emptied. See "MONITOR DUMPSTER LEVELS TO REDUCE DISPOSAL COSTS" on page 16.

Create a weekly spreadsheet, which includes inspection times (the day that the dumpster or roll off container is to be emptied), as well as boxes indicating how full the container is at the time of inspection. You can use simple terminology such as "empty", "¼ full", "full", etc. By reviewing this tracking sheet over time, it will help you gauge the amount of times the container actually needs to be emptied. You may discover that the container needs to be emptied much less often —and that will translate into cost savings.

Example:

	% full on recycling or disposal day					Average % of total volume full/week
	Mon	Tue	Wed	Thu	Fri	
Date	10/6	10/7	10/8	10/9	10/10	
Dumpster, Building A - Mixed office paper (5 x week)	25%	25%	50%	25%	25%	30%
Roll off Building B – Trash (3 x week)	50%		50%		100%	67%

Resource Management

The Massachusetts Department of Environmental Protection's preferred method of contracting for waste management services is called resource management. Unlike traditional solid waste service contracts, resource management (RM) compensates waste contractors based on performance in achieving your organization's waste reduction goals rather than the volume of waste disposed. As a result, RM aligns waste contractor incentives with

your own goals as you both explore innovative approaches that foster cost-effective resource efficiency through prevention, recycling, and recovery.

Coined by General Motors Corporation (GM), RM was a logical outgrowth to its success with performance-based contracting in the area of chemical purchasing, use, and management. GM adopted RM in response to an internal waste reduction goal and the recognition that existing hauling and disposal contracts limited waste reduction efforts across its more than 70 North American facilities. GM's objective in executing RM contracts was to "provide a systems approach to resource efficiency that motivates cost reduction and conservation of plant resources."

Research to date demonstrates that RM is widely applicable in business, institutional, and municipal settings. Because many organizations rely on disposal contracts and some already use performance-based contracting practices, RM might be a useful model for your organization.

For more information about RM, please visit the Massachusetts DEP's RM web site at <http://www.state.ma.us/dep/recycle/files/rm/rmcontr.htm>.